

## Maats, the Netherlands

As one of the core products in the Maats sales and rental portfolio, the Liebherr welding tractor has been a success with many pipeline construction companies around the globe.

The Liebherr welding tractor was first conceived in the mid 1980s, using a Liebherr crawler tractor 731 and 741 as a basis. Over the last 25 years the machine has evolved significantly. Where in the beginning the generators and welding sources were separate attachments, the machine is now a fully integrated unit known as the Liebherr SR714. With the developments made along the way, the Liebherr welding tractor has become a multifunctional machine that is no longer only suitable for cross-country pipeline construction but has found several other applications. Besides the Liebherr SR714, in recent years Maats has added the smaller Liebherr SR704 to the range.

The choice for a crawler tractor as a base machine provides several advantages. The great torque and excellent grip of the machine make the welding tractor suitable for all imaginable terrain conditions. Whether it is in the deep mud in Siberia or in the fine sand of the Sahara desert, the machine is capable of travelling on jobsites in the most extreme conditions.

The low ground pressure track shoes of 762 mm and the low centre of gravity gives the machine excellent stability. To make its working reach even bigger, the machine has a special engine layout with which the machine remains fully operational on inclinations up to 45°. This makes working in mountainous areas possible.

The Liebherr crawler tractor base machine has another big advantage. The extensive and sophisticated hydraulic system used for the hydrostatic drive makes it possible to easily attach external equipment without compromising the performance of the tractor. This means that all attachments such as the generator, crane and compressor are hydraulically powered and do not require a separate diesel engine. The crawler tractor engine is the only one diesel engine needed. When the crawler tractor is running there is electric power, hydraulic power and air available, all you need to power any tool on a jobsite.

Figure 1. The proven technology and specially developed high quality components allow the machine to remain reliable and perform in even the most demanding conditions.



Figure 2. The lockable compartments on the SR714 provide easy, yet safe access to the generator, compressor, air tanks and welding equipment.

With an output of 125 kVA the generator might be oversized for some purposes, but as the machine is not solely used as a welding tractor, it is made suitable for all applications. Some customers use the machine to power a grit blasting unit, and with six 63 A (400 V) outlets and four 32 A (230 V) outlets that is not a problem. It is even possible to combine two 63 A outlets into one 125 A outlet for powering equipment like an induction heating unit.

Four of the six available 63A outlets are commonly used for powering the welding sources. The hydraulic driven generator guarantees a most stable welding power, resulting in constant





Figure 3. The extra long undercarriage, wide track shoes and extremely low centre of gravity offer the utmost stability and low ground pressure, guaranteeing optimal use and safe operation in all ground conditions.

high weld quality. Lincoln DC400s are used as a standard because of their versatility, but other types and manufacturers are possible. Together with the generator and compressor, the welding sources are nicely stored in a lockable weather and vandalism proof cabinet. This cabinet can optionally be supplied with a double wall and isolation as part of the 'arctic-kit' that makes the machine suitable for working at temperatures as low as -40 °C.

The optional compressor gives 1.245 l/min at 14 bar and is attached to two 150 l air tanks. This supplies sufficient capacity



Figure 4. All function controls, including the operating panel for the knuckle boom crane, are located next to the operator's seat, providing the comfort and safety of operating the machine and attachments from the cabin.

to power an internal line-up clamp up to 56 in. and provides the possibility of recovering an IPLC from the pipe in case of a power failure.

Where the above mentioned attachments are all on the rear platform, the front platform is designed for mounting the crane that holds the welding shelter. Different size cranes can be mounted but the largest available crane is most opted for as nowadays welding tents are often cabins that weigh (complete with welding equipment) as much as 1500 kg. All functionalities of the crane can be operated from inside the cabin.

All attachments on the machine comply with the latest standards regarding safety, including emergency stop buttons on several locations in and on the machine. The machine has an enclosed cabin with ROPS structure, heater and air conditioning as a standard, providing a safe and comfortable working environment for the operator.

The welding tractor is converted and assembled by Maats in their facilities in the Netherlands, but the machine comes with full Liebherr guarantee. All details of the machine are registered in the online Liebherr system, meaning that service and parts are available from every Liebherr service point in the world.

The Liebherr welding tractor is a success for a reason. All aspects combined create a versatile machine that is built for its purpose, ready to perform anywhere in the world and with support available on a local level. 